NYD 002 232 304

ALUMINUM COMPANY OF AMERICA
MASSENA OPERATIONS
P.O. BOX 150
MASSENA, NEW YORK 13662

ALCOA

(AG) — 18 September 1992

8123

Mr. Andrew Bellina
Chief of Hazardous Waste
Facilities Branch
U.S. Environmental Protection Agency
26 Federal Plaza
New York, NY 10278

RE: Alcoa Remediation Projects Organization
Secure Landfill
Application for TSCA Approval

Dear Mr. Bellina:

By this letter we are requesting approval under the Toxic Substances Control Act (TSCA) for the disposal of PCBs in a secure landfill to be constructed on the Alcoa-Massena Operations property in Massena, New York. Please refer to the letter of Ms. Ellen Parr-Doering to me of 16 June 1992 concerning the approval process for the landfill (copy of letter attached). As you know, construction of the secure landfill is required to comply with the New York State Department of Environmental Conservation (NYSDEC) Record of Decision, March 1991.

As noted in the 16 June letter, Alcoa is submitting a Preliminary Design Report (PDR) to the NYSDEC for approval of the landfill under the Resource Conservation and Recovery Act (RCRA). Pursuant to the 16 June letter, it is our mutual understanding that the PDR documents will also serve as Alcoa's TSCA application (initial report) for the secure landfill. Accordingly, we submit the PDR herewith.

We have used the checklist for PCB disposal in chemical waste landfills sent to us by Mr. Everett to ensure that all applicable requirements of TSCA have been satisfied. To assist you in reviewing the documents, we have included a copy of the checklist annotated to identify where in the PDR documents the TSCA information can be found.

Your attention is directed to the request for a waiver of the technical requirement under CFR 761.75 that the bottom of the landfill liner system be at least fifty feet from the historical high water table. Because groundwater levels preclude meeting this requirement at the Alcoa-Massena site, we have submitted evidence that, because of the design of the landfill and associated monitoring systems, the operation of the landfill without the 50-foot separation from groundwater will not present an unreasonable

risk of injury to health or the environment from PCBs.

We look forward to your review comments on the secure landfill application. Please do not hesitate to call me if you have any questions or require additional information.

Sincerely,

Jim Gruenholz, P.E.
Project Coordinator

Enclosure

cc w/o enclosures: J.A. Millett/J.A. Lease/T.C. Lightfoot
Gregg Townsend, NYSDEC
Adolph Everett, USEPA
Darrell Sweredoski, NYSDEC
Ed Petrossian
W.F. McInerney
B. Braniff
J. Singleton
C. Jutras
S. Gates
Library
Archive

cc w/enclosures: Daniel Kraft, USEPA

NYD 002 232 304

ALUMINUM COMPANY OF AMERICA
MASSENA, NEW YORK

REMEDIATION PROJECTS ORGANIZATION

SECURE LANDFILL
TOXIC SUBSTANCES CONTROL ACT
PCB DISPOSAL
CHEMICAL WASTE LANDFILLS
CHECKLIST

CAG2 — 18 SEPTEMBER 1992

PREPARED BY

CAMP DRESSER AND McKEE
MASSENA, NEW YORK 13662

EPA TOXIC SUBSTANCES
CONTROL ACT (TSCA)
PCB DISPOSAL
CHEMICAL WASTE LANDFILLS
CHECKLIST

The following checklist provides the volume number and report section number of the NYSDEC 6 NYCRR 373 submittal where the specific information has been provided.

Location of Landfill

Yes	No			Volume	Report Section
X		1)	Are site maps provided (scale ~ 1" = 500 ft.)	1	Appendix A
X		2)	Does description of site area include within 1 mile of boundary: a) Other industrial sites? b) Surface waters? c) Local communities? d) Access roads?	1	Appendix A
X		3)	Is a topographical map provided for site area and 1 mile beyond (scale ~ 1" = 500 ft.)?	1	Appendix A
X		4)	Is site located in an area of low to moderate relief (5%)	1	Appendix A
X		5)	Are access roads and on-site roads described?	1	Appendix A
	X	6)	Is site located within a floodplain, wetland, critical habitat or groundwater recharge area?	1 3	2.0 3.0
X		7)	Are groundwater supplies used for drinking water within 1 mile of site?	3	3.2

Yes	No			Volume	Report Section
			Detailed Description of Landfill		
X		1)	Are the location of the groundwater monitoring wells given (map scale 1" = 500 ft)?	3	3.0
	X	2)	Is there at least 1 monitoring well per 100-200 ft. of fill area down-gradient?	3	3.0 and 4.0
X		3)	Are at least 3 monitoring wells installed (2 downgradient)?	3	3.0 and 4.0
X		4)	Is fencing around site at least 6 ft. high?	5	4.15
X		5)	Are monitoring wells cased and plugged to prevent contamination?	3	2.0
X		6)	Are all on-site water sources defined?	3	3.2
X		7)	Are diversion dikes present?	1	Appendix A
X		8)	Is diking sufficient to divert run-off from 24 hr. 25 yr. storm?	1	9.0
X		9)	Is diking = 2 ft. above 100 yr. floodwater elevation?	1	9.2
X		10)	Is a leachate collection system used?	1	6.0
X		11)	Is site geology described within 1000 ft. of site boundaries?	3	3.0
X		12)	Is site hydrology described within 1000 ft. of site boundaries?	3	3.2 and 3.3

1" = 300'

Yes	No			Volume	Report Section
	X	13)	Is site located at least 50 ft. from nearest groundwater?	See attached request for waiver	
		14)	Type of leachate collection system is:	1	6.0
	X		a) simple?		
	X		b) compound?		
	X		c) suction manometers?		
X			d) sump pumps?		
X		15)	Is maximum groundwater elevation given?	3	3.0
X		16)	Are warning signs posted at least every 1000 ft.?	5	4.15
X		17)	Are dimensions of landfill areas given?	1	4.0
X		18)	Is an artificial liner installed?	1	5.0
X		19)	Is type of liner specified?	1	5.0
X		20)	Are structures, building and equipment used specified?	1	5.0, 6.0, 7.0, 8.0 and 9.0

Engineering Report(s)

X		1)	Is preparer of report(s) specified and qualifications given?		See attached statement
X		2)	Is in-place soil thickness or compacted soil liner thickness = 4 ft. & 3 ft. respectively?	3 1	3.0 5.0
X		3)	Is soil permeability = $10.^{-7}$cm/sec?	1	5.0

Yes	No			Volume	Report Section
X		4)	Is percent soil passing a #200 sieve greater than 30%?	1	Appendix E
	X (average 26)	5)	Is liquid limit greater than 30?	1	5.4.3
X		6)	Is plasticity more than 15?	1	5.4.3
X (60 mil HDPE)		7)	If an artificial liner is used is it = 30 mil thick?	1	5.0
X		8)	Are permeability and distance to groundwater given?	3	3.0
X		9)	Is type of leachate treatment specified and described?	1	6.0 (Treatment plan currently under study)
X		10)	Are a baseline analysis of ground and surface water given?	3	3.5 (Storm water quality monitored under existing plant SPDES permit.)
X		11)	Are the parameters PCBs, pH, specific conductance, Cl-organics monitored?	3	3.0 and 4.0 (Storm water quality monitored under existing plant SPDES permit.)

Yes	No			Volume	Report Section
X		12	Is laboratory facility described?	3	4.0
Expected Waste Volumes					
X		1)	Are quantities of PCB wastes expected given?	1	4.3 and 4.4
X		2)	Are types of PCB wastes expected given?	1 2	4.0 2.0
X		3)	Is a general description of types and quantities of other wastes co-disposed given?	1	4.3
		4)	Is the expected storage time prior to disposal given?		N/A
		5)	Is the pre-acceptance procedure specified?		N/A
Sampling and Monitoring Equipment					
X		1)	Is sampling methodology described?	3 5	4.0 6.1
		2)	Are laboratory personnel listed?		N/A
		3)	Is laboratory equipment listed?		N/A
X		4)	Are types of monitoring wells associated with location?	3	3.0
		5)	Are treatment areas (e.g., lagoons) described?		N/A
X		6)	Are treatment processes described?	2	2.0

Yes	No			Volume	Report Section
Landfill Operations Plan					
X		1)	Are recordkeeping procedures given?	5	4.18 and 7.1
X		2)	Are security measures specified?	5	4.15
X		3)	Are waste burial coordinates specified?	5	4.5
X		4)	Are vehicle and equipment movements described?	2	6.0
X (see plan for frequency)		5)	Is a monthly monitoring and sampling procedure plan given?	3 5	4.0 6.0
X		6)	Is a roadway maintenance plan given?	5	4.2
X		7)	Are procedures for handling surface water runoff given?	5	4.7
X		8)	Is methodology for placing wastes in landfill stipulated?	5	3.0
X		9)	Is covering procedure described (daily and final)	5	3.0
X		10)	Are work schedules given?		N/A
X		11)	Is a contingency plan developed?	2	5.0
X		12)	Is a training plan in the report?	2	7.0
X		13)	Are there plans for long term care and closure?	4	3.0
		14)	Are there any voluntary compliance schedules for meeting any deficiencies?		N/A

Yes	No		Volume	Report Section
Local and State Government				
X		1) Does facility have a state or local permit?	NYSDEC Records of Decision	
X		2) Is the state/local government aware of application?	NYSDEC Records of Decision	
X		3) Does facility have a Federal permit?	NYSDEC Records of Decision	
X		4) Is all applicable permit data available?	1-5	All
X		5) Has the state certified facility?	NYSDEC Records of Decision	
X		6) Is site history good?	1 3	2.0 1.0-3.0
Storage				
		1) Is the storage facility described?	N/A	
		2) Does facility meet requirements of Annex III?	N/A	
		3) Are stored containers catalogued?	N/A	

N/A: Not applicable

REQUEST FOR WAIVER FROM REQUIREMENTS OF 40 CFR 761.75(b)(3), HYDROLOGIC CONDITIONS

The proposed secure landfill will meet all the requirements of 40 CFR 761.75(b), Technical Requirements, with one exception: the bottom of the landfill liner system will not be at least 50 feet from the historical high water table (761.75(b)(3)). Under CFR 761.75(c)(4), Waivers, the Regional Administrator may waive one or more of the technical requirements in an approval for a chemical waste landfill based on evidence that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs.

The following evidence is submitted in support of a request for waiver of the requirement that the bottom of the landfill liner system be at least 50 feet from the historical high water table.

- The proposed liner system for the base of the landfill incorporates two composite liners, a primary composite liner comprised of a 60-mil thick HDPE geomembrane overlying and in contact with a geosynthetic clay liner and a secondary composite liner comprised of a 60-mil thick HDPE geomembrane overlying and in contact with a 36-inch clay layer with a permeability less than or equal to $1x10^{-7}$ cm/sec. This system exceeds the RCRA Minimum Technology Guidance by including a primary composite liner instead of a single geomembrane primary liner. The calculated leakage rate for the proposed composite primary liner system is several orders of magnitude less than that of the single geomembrane primary liner specified in Minimum Technology Guidance.

- The 60-mil thickness of the HDPE geomembranes for the primary and secondary liner system exceeds the Minimum Technology guidance on thickness by 100 percent.

- The geomembrane, geosynthetic and clay materials to be used in the landfill liner system are being subjected to a thorough, 150-day chemical compatibility testing program to demonstrate compatibility with PCBs and other chemicals anticipated in the leachate.

- The hydraulically separate primary leachate collection and secondary leak detection systems will incorporate the use of high-capacity geonets for rapid drainage and removal of leachate and maintenance of low hydraulic head on the liner system. Monitoring for leachate in the secondary leak detection system will provide a means of assessing the integrity of the primary liner system.

- The bottom of the landfill liner system, while not 50 feet above the historical high water table (the landfill has been designed to maintain a minimum 5-foot separation between the bottom of the liner system and the seasonal high water table), will be more than 50 feet above the closest underlying aquifer (bedrock).

- A thick sequence of dense glacial till (approximately 80 to 110 feet thick) overlies the bedrock in the area of the landfill. Travel times to bedrock are estimated to be on the order of 1,000 years. This till provides significant protection to the bedrock aquifer. Because of the very low vertical hydraulic conductivity in the till, less than 1 percent of groundwater recharge reaches the bedrock aquifer.

- The landfill will be surrounded by an extensive groundwater monitoring system, designed with the aid of a three-dimensional groundwater flow and mass transport model of the landfill area. This groundwater monitoring system is the final component of the detection monitoring program which includes a secondary leak detection system built into the landfill.

- The three-dimensional groundwater flow and mass transport model predicts that even in the unlikely event of an undetected escape of leachate from the double composite liner system, it would take many years for the leachate to reach the nearest monitoring wells. Furthermore, PCBs (and other contaminants) in the leachate are likely to be retarded in the groundwater flow and move more slowly than the average flow velocity. The groundwater model also confirmed that horizontal flow predominates in the glacial till. Therefore, shallow overburden monitoring will be included as part of the leak detection monitoring program.

- The landfill will receive PCB-contaminated wastes that either are presently at a low concentration of PCBs or have been treated to a low concentration of PCBs. Furthermore, these wastes will come from a limited number of pre-specified, pre-characterized waste sites at the Alcoa-Massena plant site, all in conformance with the NYSDEC Records of Decision.

Based on the foregoing, it is concluded that lack of a 50-foot separation between the bottom of the liner system and the historical high water table does not present an unreasonable risk of injury to health or the environment from PCBs and, therefore, a waiver of this technical requirement is requested.

PREPARER OF REPORT AND QUALIFICATIONS

This report was prepared by Camp Dresser & McKee (CDM) for the Alcoa Remediation Projects Organization. CDM's qualifications are on file with the New York State Department of Environmental Conservation (NYSDEC), having been submitted to NYSDEC in accordance with the terms of the Consent Order.

A. Everett DEC 4 RECD

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

NOV 30 1992

Ms. Barbara Metzger, Director
Environmental Services Division
USEPA, Region II
26 Federal Plaza
New York, NY 10278

Mr. Conrad Simon, Director
Division of Air and Waste Management
USEPA Region II
26 Federal Plaza
New York, NY 10278

Dear Ms. Metzger and Mr. Simon:

On October 28, 1992, staff from your divisions and NYSDEC met with representatives from the Aluminum Corporation of America (ALCOA) to discuss permitting of the RCRA/TSCA secure landfill at their Massena facility. As you may know, ALCOA has agreed to implement a remedial program that is worth in excess of $185 million. The landfill is a key component of this program and delay in constructing the landfill will delay the rest of the remedial program. Present scheduling requires construction of the landfill to begin in April, 1993.

The purpose of the meeting was to ascertain the progress of the agencies' review, to decide how duplication of effort could be minimized, and to iron out any administrative impediments so that when the submission is determined compliant, approval can be granted without delay. From a technical perspective, both EPA and DEC have completed a preliminary review and no major problems have been encountered. DEC staff have met with ALCOA informally to discuss comments and will provide formal comments by November 30, 1992. EPA staff indicated they could also provide comments in that time frame. ALCOA indicated they would respond to comments and submit a final design by January 1, 1993.

From a division of responsibilities standpoint it was decided that DEC will provide the majority of review. DEC staff from the Division of Hazardous Waste Remediation will review the documents for compliance with all rules and regulations that DEC has authority for. EPA review will be basically limited to the areas DEC does not have delegation for (e.g., TSCA and HSWA minimum technology [MinTech] requirements).

Unfortunately, the administrative process could become the greatest impediment to the timely implementation of this whole program. The proposal worked out at the meeting to provide for coordination between EPA and DEC is as follows. Both DEC and EPA will complete their review and submit formal comments by November 30, 1992. ALCOA will provide a response and a final submission in early January, 1993. EPA and DEC will concurrently review the final submissions with a goal of completing review within 60 days. When DEC completes its reviews and is satisfied that all requirements are met, DEC will send a letter to EPA indicating that the proposal meets all of the regulatory requirements. At the same time, DEC will schedule a public meeting to discuss this proposed approval. DEC may also take the opportunity to discuss progress in other parts of the remedial program. Following the public meeting, and after it is satisfied that the submission meets its mandated requirements, EPA will issue a letter to ALCOA indicating that the design meets TSCA and MinTec requirements. DEC will then approve the Remedial Design which will allow ALCOA to begin the construction phase. After construction is complete and the certification documents are reviewed and found acceptable, both EPA and DEC will issue approvals to begin waste disposal.

I hope this proposed process meets with your approval. It provides for timely, comprehensive review of an important project and minimizes duplication of effort to the extent possible. If there are any questions, please do not hesitate to contact me or Jim Harrington of my staff at (518) 485-8792.

Sincerely,

Michael J. O'Toole, Jr.
Director
Division of Hazardous Waste
Remediation

cc: K. Callahan
W. McCabe
D. Greenlaw
A. Everett
D. Blazy

NYD 002 232 304

CA92 – DEC 23 1992

James Gruenholz, P.E.
Aluminum Company Of America
Massena Operations
P.O. Box 150
Massena, New York 13662

Re: ALCOA Secure Landfill Project
Review of Preliminary Design Report

Dear Mr. Gruenholz:

The United States Environmental Protection Agency (EPA) Region II has reviewed the Preliminary Design Report for above-referenced project, which you submitted to us and the New York State Department of Environmental Conservation (NYSDEC) on September 18, 1992, in accordance with the New York State Record of Decision for your facility. We have included our comments herein. These comments were faxed to you in draft form on December 15, 1992 by Mr. Adolph Everett, of my staff, for incorporation into your next submittal to the agencies.

As was discussed in a meeting in our office among EPA, NYSDEC and ALCOA on October 28, 1992, the agencies mutually agreed that we would perform our review to determine if the landfill design meets the requirements of the Toxic Substances and Control Act (TSCA) and the Hazardous and Solid Waste Amendments (HSWA) of 1984 minimum technology standards.

Should you have any questions, please feel free to contact Mr. Everett at (212) 264-8690, or Mr. Dave Greenlaw, of our Environmental Services Division, at (908) 906-6817.

Sincerely yours,

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch

Attachment

cc: James Harrington, NYSDEC w/attach.
Darrell Sweredoski, NYSDEC Region 6 w/attach.

bcc: Douglas Pocze, 2AWM-HWF w/attach.
Adolph Everett, 2AWM-HWF w/attach. ✓
Ernest Regna, 2ESD-PTS w/attach.
Dan Kraft, 2ESD-PTS w/attach.
David Greenlaw, 2ESD-PTS w/attach.

HSWA Minimum Technology Standards Review Comments

General:

1. Monitoring and Inspection Requirements

The Report must include monitoring and inspection requirements for the leak detection system in accordance with 40 CFR § 264.15 and 40 CFR § 264.303. The weekly or monthly inspection records will be used to determine if the action leakage rate has been exceeded (see HSWA Min-Tech Comment 4, below).

2. Construction Quality Assurance

The Construction Quality Assurance program, when submitted, must be prepared in accordance with 40 CFR § 264.19, in addition to all New York State requirements.

Calculation of Action Leakage Rate and Determination of Exceedance:

3. General

The Report should include a discussion and estimation of the leakage levels normally expected from each known water source during liner installation when construction quality assurance protocol is followed. These water sources can include precipitation during landfill construction, or water content of granular materials during placement.

4. General

The Report does not include a discussion of how the exceedance of the action leakage rate will be determined. In accordance with 40 CFR § 264.302(b), the exceedance of the action leakage rate shall be determined by converting the weekly or monthly flow rate obtained from monitoring and inspection (40 CFR § 264.303(c)(1) and (c)(2)) to an average daily flow rate for each sump.

5. Volume 1, Page 6-34

Supply additional information on the selection of the equation to determine the flow rate through a hole in the liner [$Q = k \cdot D \cdot (2h - D)$]. This equation does not apparently take into account the slope of the liner. In the preamble to the January 29, 1992 HSWA minimum technology standards, EPA suggested the use of the following equation to estimate the leakage rate:

$$Q = k \cdot h \cdot \tan\alpha \cdot B$$

where Q = flow rate in the leak detection system (LDS),
h = head on the bottom liner,
k = hydraulic conductivity of the drainage medium,
α = slope of the LDS,
B = width of flow in the LDS, perpendicular to flow.

Justify why the design of the LDS should not be based on this equation.

Response Action Plan:

6. Volume 1, Pages 6-35 and 6-36

Revise the last paragraph on the bottom of the page as follows:

> "This RAP will be implemented for any landfill cell where the flow from the leak detection system is determined to be higher than the Action Leakage Rate for that cell. As used herein, the term 'leak detection system' refers to all components associated with the primary (top) and secondary (bottom) composite liners. The following actions will be taken:".

7. Volume 1, Page 6-37

Revise Section 6.5.2 (viii) and (ix), as follows:

"(viii) To make the leak and/or remediation determinations specified in (iii), (iv), and (v), the following actions will be taken:

- The source of liquids and amount of liquids by source will be assessed;
- Tests and observations on samples of liquids in the leak detection system for color, turbidity, specific conductance, and pH will immediately be performed, compared with previous or expected results, and recorded;
- A fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system will be conducted to identify the source of liquids and possible location of the leaks, and the hazard and mobility of the liquid; and
- The seriousness of any leaks in terms of potential for escaping into the environment will be assessed. This assessment will include but is not limited to an investigation of the landfill's groundwater monitoring system.

(ix) If any of the assessments in (viii) above are deemed unnecessary to address a particular action leakage rate exceedance event, the reasons for not conducting those assessments will be documented and submitted to the NYSDEC in accordance with (vi) above."

TSCA Review Comments

Waivers:

1. Considering the design of the landfill liner system, the dual leachate collection systems and the nature of the wastes to be disposed, waiver of the 50 feet to groundwater requirement is appropriate.

2. There is another area where an additional waiver needs to be identified. 40 C.F.R. § 761.75(b)(6)(iii) requires analysis of ground water for chlorinated organics. ALCOA should specify that analysis will be limited to the chemicals identified in the application since the chemicals in the waste have been specifically identified.

Items to be added:

3. 40 C.F.R. § 761.75(b)(7) requires that leachate be monitored monthly for the same parameters as groundwater and for the quantity of leachate produced. Monthly is not specified in the application (See also HSWA Min-Tech Comment No. 1).

4. Warning signs on fence must included PCB mark M_L at access gates and approximately every 600 feet and at each gate/access point. (Volume 5, Section 4.15)

5. Leachate System, Volume 5, Section 4:

   What are the provisions for surge capacity for leachate? An application for approval of the leachate treatment system, including all treatment of leachate until it meets discharge standards, must be submitted and approved before any waste is disposed. Treatment of leachate from a 40 C.F.R. § 761.75 landfill may be specific for the individual disposal facility.

6. Post Closure: The post closure period is specified at 30 years. Post closure monitoring and operations will continue, even after 30 years, unless changes are approved in writing by the Regional Administrator of EPA Region II.

Installation of liner system, questions:

7. Geonet and Geotextile: The report describes the tying together of seams in certain locations. Where seams are to be tied, is this just for placement during installation or is this to hold seams together within the liner system? Please specify if the purpose of tying the seams is only to hold seams together during installation or provide analysis of strength of tied seams, the method of tying to be used to avoid tearing geotextile or geonet under stress, and the material used for tying.

8. Geonet: Specify appropriate orientation for Geonet for each drainage plane of landfill and for repairs or patches.

9. Geomembrane: There should be provisions for checking all portions of all seams for leaks.

   Specify that portions of field seams will be cut out and tested for peel and tear strength. (Requirements for tear and peel strength of seams are specified in another section but collection of samples should be included under installation.)

10. General Comment: Use of a drainage layer consisting of only geonet presents narrow margins for blockage of the drainage layer. From the compositon of the waste to be disposed the leachate is likely to have very little contamination; however, failure of the geotextile or dirt and debris incorporated during installation are critical concerns. One of the comments in the plan on installation is that dirt and debris would be flushed off if they were present. Any flushing must not carry material into the installed geonet. Vacuum or other removal techniques may be necessary. Appropriate controls during installation to insure adaquate drainage of leachate must be specified.

HDPE boots, question, Volume 1, Appendix B:

11. Page 02273-3 (HDPE "boots"). What does this refer to? Are there areas where piping passes through the geomembrane of the liner system, at which the boots are to be installed?

Other comments:

12. 40 C.F.R. § 761..75(b)(8)(ii), Operations Plan: The three dimensional burial coordinates are to identify where different wastes are disposed. It is sufficient to identify disposal location based on waste type and not by individual truckload.

ATTACHMENT

Response to EPA Comments, Dated December 23, 1992,
on the Preliminary Design Report
for the Alcoa Secure Landfill

HSWA Minimum Technology Standards Review Comments

General:

1. Monitoring and Inspection Requirements

Comment

The Report must include monitoring and inspection requirements for the leak detection system in accordance with 40 CFR § 264.15 and 40 CFR § 264.303. The weekly or monthly inspection records will be used to determine if the action leakage rate has been exceeded (see HSWA Min-Tech Comment 4, below).

Response

CDM has reviewed both 40 CFR § 264.15 and 40 CFR § 264.303. The monitoring and inspection requirements for the leak detection system (secondary leachate collection system) will be substantially met by implementation of the closure and post-closure plan (Volume 4) and the operation and maintenance plan (Volume 5). However, inspection intervals for the leak detection system have been further clarified in response to the comment. See Volume 4, Section 2.11 and Volume 5, Section 6.1 for revisions to the text.

2. Construction Quality Assurance

Comment

The Construction Quality Assurance program, when submitted, must be prepared in accordance with 40 CFR § 264.19, in addition to all New York State requirements.

Response

A Construction Quality Assurance Plan has been prepared in accordance with 40 CFR § 264.19, in addition to New York State requirements, and has been submitted with the final design documents for agency review.

Calculation of Action Leakage Rate and Determination of Exceedance:

3. General

Comment

The Report should include a discussion and estimation of the leakage levels normally expected from each known water source during liner installation when construction quality assurance protocol is followed. These water sources can include precipitation during landfill construction, or water content of granular materials during placement.

Response

Revisions to Volume 1 have been made in response to the comment. See Volume 1, Section 6.5.2 for the revisions to the text.

4. General

Comment

The Report does not include a discussion of how the exceedance of the action leakage rate will be determined. In accordance with 40 CFR § 264.302(b), the exceedance of the action leakage rate shall be determined by converting the weekly or monthly flow rate obtained from monitoring and inspection (40 CFR § 264.303(c)(1) and (c)(2)) to an average daily flow rate for each sump.

Response

Revisions to Volume 1 have been made in response to the comment. See Volume 1, Section 6.5.2 for the revisions to the text.

In addition, Volumes 4 and 5 have been modified in response to the comment. See Volume 4, Section 2.11.3 and Volume 5, Section 6.1.3 for the revisions to the text.

5. Volume 1, Page 6-34

Comment

Supply additional information on the selection of the equation to determine the flow rate through a hole in the liner [$Q=k \bullet D \bullet (2h - D)$]. This equation does not apparently take into account the slope of the liner. In the preamble to the January 29, 1992 HSWA minimum technology standards, EPA suggested the use of the following equation to estimate the leakage rate:

$$Q = k \bullet h \bullet \tan\alpha \bullet B$$

where Q = flow rate in the leak detection system (LDS),
h = head on the bottom liner,
k = hydraulic conductivity of the drainage medium,
α = slope of the LDS,
B = width of flow in the LDS, perpendicular to flow.

Justify why the design of the LDS should not be based on this equation.

Response

Revisions to Volume 1 have been made in response to the comment. See Volume 1, Section 6.5.1 for the revisions to the text.

Response Action Plan:

6. Volume 1, Pages 6-35 and 6-36.

Comment

Revise the last paragraph on the bottom of the page as follows:

> "This RAP will be implemented for any landfill cell where the flow from the leak detection system is determined to be higher than the Action Leakage Rate for that cell. As used herein, the term 'leak detection system' refers to all components associated with the primary (top) and secondary (bottom) composite liners. The following actions will be taken:".

Response

Exception is taken to this comment because it is stated in the HSWA minimum technology standards that the RAP regulations apply only to secondary leachate collection (or leak detection) systems, not to primary leachate collection systems.

7. Volume 1, Page 6-37

Comment

Revise Section 6.5.2 (viii) and (ix), as follows:

"(viii) To make the leak and/or remediation determinations specified in (iii), (iv), and (v), the following actions will be taken:

- o The source of liquids and amount of liquids by source will be assessed;
- o Tests and observations on samples of liquids in the leak detection system for color, turbidity, specific

conductance, and pH will immediately be performed, compared with previous or expected results, and recorded;

- o A fingerprint, hazardous constituent or other analyses of the liquids in the leak detection system will be conducted to identify the source of liquids and possible location of the leaks, and the hazards and mobility of the liquid; and

- o The seriousness of any leaks in terms of potential for escaping into the environment will be assessed. This assessment will include but is not limited to an investigation of the landfill's groundwater monitoring system.

(ix) If any of the assessments in (viii) above are deemed unnecessary to address a particular action leakage rate exceedance event, the reasons for not conducting those assessments will be documented and submitted to the NYSDEC in accordance with (vi) above."

Response

Revisions to Volume 1 have been made in response to the comment. See Volume 1, Section 6.5.2 for the revisions to the text.

TSCA Review Comments

Waivers:

1.

Comment

Considering the design of the landfill liner system, the dual leachate collection systems and the nature of the wastes to be disposed, waiver of the 50 feet to groundwater requirement is appropriate.

Response

This comment is acknowledged; no revision to the text is necessary.

2.

Comment

There is another area where an additional waiver needs to be identified. 40 CFR § 761.75(b)(6)(iii) requires analysis of groundwater for chlorinated organics. Alcoa should specify that analysis will be limited to the chemicals identified in the

application since the chemicals in the waste have been specifically identified.

Response

A waiver request regarding groundwater analysis for chlorinated organics has been submitted with the final design documents for agency review.

Items to be added:

3.

Comment

40 CFR § 761.75(b)(7) requires that leachate be monitored monthly for the same parameters as groundwater and for the quantity of leachate produced. Monthly is not specified in the application (see also HSWA Min-Tech Comment No. 1).

Response

Revisions to Volumes 4 and 5 have been made to reflect the comment that monitoring of leachate and monitoring for the quantity produced is to be performed on a monthly basis for the primary leachate. For the secondary system, monitoring can only be performed if liquids are present. See Volume 4, Section 2.11 and Volume 5, Section 6.1 for the revisions to the text.

Exception is taken to the statement that leachate be monitored for the same parameters as groundwater. The parameters as proposed for leachate monitoring are indicative of and specific to the type of waste being disposed of in each cell. There is no need to monitor the leachate for the same parameters as the groundwater since leachate is segregated by cell.

4.

Comment

Warning signs on fence must include PCB mark M_L at access gates and approximately every 600 feet and at each gate/access point. (Volume 5, Section 4.15)

Response

Revisions to Volume 5 have been made to reflect that warning signs will include PCB mark M_L. See Volume 5, Section 4.15 for the revisions to the text.

5. Leachate System, Volume 5, Section 4

Comment

What are the provisions for surge capacity for leachate? An application for approval of the leachate treatment system, including all treatment of leachate until it meets discharge standards, must be submitted and approved before any waste is disposed of. Treatment of leachate from a 40 CFR § 761.75 landfill may be specific for the individual disposal facility.

Response

Provisions for surge capacity for leachate during landfill operations has already been discussed in Section 4.6 of Volume 5. Therefore, no revision to the text is warranted.

Provisions for surge capacity for leachate at the wastewater treatment plant are as follows:

Cell 1 leachate:	There will be a 50,000-gallon equalization tank in Building 79C to handle leachate surges from the potlining waste cell.
Cell 2 leachate:	There will be a separate 50,000-gallon equalization tank to handle leachate surges from the untreated waste cell.
Cell 3 leachate:	Design of the leachate treatment system for Cell 3 leachate is not yet complete and will be influenced by the type of treatment process selected.

In addition, there is a 3,000,000-gallon storage tank north of the general refuse landfill that could be used for emergency leachate storage.

An application for approval of the leachate treatment system will be submitted.

6.

Comment

Post Closure: The post closure period is specified at 30 years. Post closure monitoring and operations will continue, even after 30 years, unless changes are approved in writing by the Regional Administrator of EPA Region II.

Response

Revisions to Volume 4 have been made in response to the comment. See Volume 4, Section 3.2 for the revisions to the text.

Installation of liner system, questions:

7.

Comment

Geonet and Geotextile: The report describes the tying together of seams in certain locations. Where seams are to be tied, is this just for placement during installation or is this to hold seams together within the liner system? Please specify if the purpose of tying the seams is only to hold seams together during installation or provide analysis of strength of tied seams, the method of tying to be used to avoid tearing geotextile or geonet under stress, and the material used for tying.

Response

Revisions to Volume 1: Appendix B (Specifications) have been made to respond to this comment. See Volume 1: Appendix B - Section 02272, Paragraph 3.02 (B) for the revisions to the text.

8.

Comment

Geonet: Specify appropriate orientation for geonet for each drainage plane of landfill and for repairs or patches.

Response

Revisions to Volume 1: Appendix B (Specifications) have been made to respond to this comment. See Volume 1: Appendix B - Section 02274, Paragraph 3.01 (A.1) and Paragraph 3.01 (C) for the revisions to the text.

9.

Comment

Geomembrane: There should be provisions for checking all portions of all seams for leaks.

Specify that portions of field seams will be cut out and tested for peel and tear strength. (Requirements for tear and peel strength of seams are specified in another section but collection of samples should be included under installation.)

Response

These comments have been addressed in the Secure Landfill Construction Quality Assurance Plan (SLF/CQAP) submitted for review.

10.

Comment

General Comment: Use of a drainage layer consisting of only geonet presents narrow margins for blockage of the drainage layer. From the composition of the waste to be disposed the leachate is likely to have very little contamination; however, failure of the geotextile or dirt and debris incorporated during installation are critical concerns. One of the comments in the plan on installation is that dirt and debris would be flushed off if they were present. Any flushing must not carry material into the installed geonet. Vacuum or other removal techniques may be necessary. Appropriate controls during installation to insure adequate drainage of leachate must be specified.

Response

Revisions to Volume 1: Appendix B (Specifications) have been made to respond to this comment. See Volume 1: Appendix B - Section 02274, Paragraph 3.01 (A.4) for the revisions to the text.

<u>HDPE Boots, Question</u>, Volume 1, Appendix B:

11.

Comment

Page 02273-3 (HDPE "boots"). What does this refer to? Are there areas where piping passes through the geomembrane of the liner system, at which the boots are to be installed?

Response

Boots will be provided for the final cover at the gas vents only. There are no areas where piping will pass through the geomembrane of the liner system.

<u>Other comments</u>:

12.

Comment

40 CFR § 761.75(b)(8)(ii), Operations Plan: The three dimensional burial coordinates are to identify where different wastes are disposed of. It is sufficient to identify disposal location based on waste type and not by individual truckload.

Response

This comment is acknowledged. Three-dimensional burial coordinates have already been specified in Volume 5, Section 4.5. Therefore, no revision to the text is necessary.

REQUEST FOR WAIVER FROM REQUIREMENTS OF 40 CFR 761.75(b)(6)(iii), MONITORING SYSTEMS- WATER ANALYSIS

40 CFR 761.75(b)(6)(iii), Technical Requirements, Monitoring Systems - Water Analysis, requires that all water samples for sites receiving PCBs be analyzed for all EPA chlorinated organics, among other parameters.

Under 40 CFR 761.75(c)(4), Waivers, the Regional Administrator may waive one or more of the technical requirements in an approval for a chemical waste landfill based on evidence that operation of the landfill will not present an unreasonable risk of injury to health or the environment from PCBs.

The following evidence is submitted in support of a request for waiver of the requirement that the groundwater samples be analyzed for all EPA chlorinated organics.

- The wastes to be landfilled will come from a limited number of pre-specified, pre-characterized waste sites at the Alcoa-Massena plant site. The chemicals in these wastes have been specifically identified in the application.

- The groundwater monitoring program that has been proposed for the secure landfill is based on the expected quality of leachate that will be generated in the landfill. The expected leachate quality is based on the wastes that will be placed in the landfill. The organic compounds that will be included in the routine groundwater monitoring program are volatile organics and PCBs. These compounds will be used as indicator parameters of potential contamination from the landfill. In the event that potential contamination is indicated, a contingency monitoring program would be initiated. The contingency monitoring program would include a full TCL/TAL analysis at the affected well(s). The TCL/TAL analysis includes

semi-volatile organics. Some chlorinated organics are included in the proposed routine volatile organics analysis, and most of the chlorinated hydrocarbons listed by EPA are included in the semi-volatile organics analysis.

Based on the foregoing, it is concluded that waiver of the requirement to analyze for all EPA chlorinated organics does not present an unreasonable risk of injury to health or the environment, and therefore a waiver of the requirement that all chlorinated organics be included in the routine groundwater monitoring program is requested.

MAR 0 4 1993

Mr. Michael J. O'Toole, Jr.
Director
Division of Hazardous Waste Remediation
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, New York 12233

Re: ALCOA Secure Landfill Project

Dear Mr. O'Toole:

We are in receipt of your letter to us dated November 30, 1992, in which you described the status of the ALCOA Secure Landfill project, which is being implemented in accordance with a Record of Decision (ROD) issued by the New York State Department of Environmental Conservation (NYSDEC) in January 1992. In addition, you requested our approval of a procedure through which the U.S. Environmental Protection Agency (EPA) Region II would formally approve the design and construction of the landfill under the Toxic Substances Control Act (TSCA) and the Hazardous and Solid Waste Amendments (HSWA) of 1984 (the latter will be limited to minimum technology requirements). The proposal you described was developed by our respective staffs during a meeting with ALCOA on October 28, 1992.

We would first like to inform you that we reviewed ALCOA's Preliminary Design Report to assure that the design of the landfill is in accordance with TSCA requirements and HSWA minimum technology standards. We provided comments informally to ALCOA on December 15, 1992, to assure that our comments were incorporated into ALCOA's final submittal. These comments were formally issued on December 23, 1992. We received ALCOA's final submittal on January 11, 1993. We are performing a concurrent review of this submittal with your staff and will address any remaining concerns within 60 days, as proposed.

With regard to the proposed procedure for obtaining EPA's approval, please note that for New York State facilities, we usually grant HSWA approval as part of a complete permit under the Resource Conservation and Recovery Act (RCRA), which consists of a 6NYCRR Part 373 permit and an EPA HSWA permit. Both draft permits are public noticed for a 45-day period prior to issuance.

It is our understanding that, in accordance with NYSDEC's Organization and Delegation Memorandum #90-37, which provides guidance for state permitting jurisdiction of certain inactive hazardous waste site remediation projects, NYSDEC has determined that the ALCOA secure landfill will not require a 6NYCRR Part 373 permit. In addition, since the landfill will not manage any federal RCRA hazardous waste, we do not consider the landfill to be a RCRA-regulated unit. Therefore, we will not issue a HSWA permit to ALCOA. Instead, we will incorporate the HSWA minimum technology requirements into our TSCA approval to ALCOA, since these requirements are necessary to ensure proper liner usage in accordance with 40 CFR § 761.75(b)(2), and proper leachate management in accordance with 40 CFR § 761.75(b)(7). This also includes approval of all related construction quality assurance submittals.

It is also our understanding that, in accordance with the same memorandum, NYSDEC is required to provide an opportunity for public comment which is substantially equivalent to that required by the permitting process. In addition to your previous public involvement efforts during the remedial alternative selection process, you intend to hold a public meeting after the landfill review process is complete.

Please be informed that in this case, it is our preference to allow the public an opportunity to comment on our tentative decision for ALCOA's TSCA approval for the secure landfill. Therefore, we request that NYSDEC hold its public meeting on the proposed decision for the ALCOA secure landfill jointly with EPA, so that the public is also informed of our proposed TSCA approval decision at the same time. This coordination occurs with all NYSDEC RCRA permits, and has proven to be an effective method for presenting joint activities to the public.

Upon notification of NYSDEC's decision that the secure landfill application is complete and is in accordance with all relevant state requirements, we will issue our tentative decision to NYSDEC stating that the application meets all relevant TSCA requirements. Coordination by our staffs for the public meeting should begin at that time.

The remainder of the proposed schedule as described in your letter is appropriate. Following the public involvement process, including the resolution of all comments, we will make a determination on the TSCA authorization to ALCOA. We request to review all certification documents after construction is complete. Following our review and approval, we will issue an approval letter to ALCOA to allow PCB waste disposal.

We have determined that the approval process as described herein is appropriate to assure that both agencies participate in the final review of ALCOA's secure landfill project and meet our respective public notice requirements. If these procedures are satisfactory, we request that you inform ALCOA of our agreement at your earliest possible convenience.

Should your staff have any questions, please feel free to contact Mr. Adolph Everett, of my staff, at (212) 264-8690, or Mr. David Greenlaw, of our Environmental Services Division, at (908) 906-6817.

Sincerely yours,

Original signed by
Conrad Simon

Conrad Simon
Director
Air and Waste Management Division

cc: Darrell Sweredoski
Division of Hazardous Waste Remediation
NYSDEC, Region 6

bcc: Andrew Bellina, 2AWM-HWF
Douglas Pocze, 2AWM-HWF
Adolph Everett, 2AWM-HWF ✓
George Pavlou, 2ERRD-O&PM
Barbara Metzger, 2ES
William Sawyer, 2ORC-AWTS
Coles Phinizy, 2ORC-AWTS
Rudy Perez, 2ORC-AWTS
Ernest Regna, 2ES-PTS
Daniel Kraft, 2ES-PTS
David Greenlaw, 2ES-PTS

MAR 24 1993

Mr. James Gruenholz, P.E.
Project Coordinator
Aluminum Company of America
Massena Operations
P.O. Box 150
Massena, New York 13662

Re: ALCOA Secure Landfill Project

Dear Mr. Gruenholz:

Reference is made to your letters dated January 8, 1993 to the U.S. Environmental Protection Agency (EPA) Region II, through which you transmitted the Final Design Report for the ALCOA Secure landfill project, and February 12, 1993 to the New York State Department of Environmental Conservation (NYSDEC), through which you transmitted the revised Construction Quality Assurance Plan and Construction Work Plan for the same project.

Please be informed that through these submittals ALCOA has satisfactorily addressed all comments which we issued to ALCOA in our letter dated December 23, 1992. In addition, we have no further comments on the Construction Quality Assurance Plan and Construction Work Plan. Upon ALCOA's resolution of all concerns raised by NYSDEC, EPA will tentatively consider your application complete under the Toxic Substances Control Act (TSCA).

As you know, on March 25, 1993 we will participate in a public information session with NYSDEC and ALCOA to address any concerns which the public may have regarding our tentative decision. Following that meeting, including the resolution of all public comments, EPA will formally notify ALCOA on the status of its TSCA authorization request.

Should you have any questions, please contact Mr. Adolph Everett, of my staff, at (212) 264-8690.

Sincerely yours,

Andrew Bellina, P.E.
Chief, Hazardous Waste Facilities Branch

cc: Michael O'Toole, Jr.
Division of Hazardous
Waste Remediation, NYSDEC

Darrell Sweredoski
Division of Hazardous
Waste Remediation, NYSDEC Region 6

bcc: Andrew Bellina, 2AWM-HWF
Douglas Pocze, 2AWM-HWF
Adolph Everett, 2AWM-HWF ✓
Daniel Kraft, 2ES-PTS
David Greenlaw, 2ES-PTS

Statement for
Public Information Meeting for
EPA's Tentative Decision on
the ALCOA Secure Landfill
at Massena, New York

March 25, 1993

Good afternoon. My name is Adolph Everett, and I am employed as an environmental engineer in the Resource Conservation and Recovery Act (RCRA) program of the United States Environmental Protection Agency (USEPA), Region II. The Regional office is located in New York City. I am the RCRA project manager for the Aluminum Company of America's (ALCOA) secure landfill design project in Massena, New York. I have also helped to coordinate the review of the secure landfill design project with the New York State Department of Environmental Conservation.

USEPA reviewed ALCOA's secure landfill design to ensure that the design meets the minimum requirements of the Toxic Substances Control Act (TSCA) for PCB disposal. Although the State has its own regulatory requirements, it has not been authorized to administer TSCA, so all approvals under TSCA in the State of New York are currently granted by the USEPA.

ALCOA submitted a TSCA application to the USEPA on September 18, 1992. As part of this application, ALCOA requested a waiver from one of the technical requirements for hydrologic conditions. In particular, ALCOA requested a waiver from the requirement that the bottom of the landfill liner system be at least fifty feet above the historical high water table. ALCOA has proposed to construct the landfill such that a minimum 5-foot separation will be maintained between the bottom of the landfill liner system and the historical water table.

Under the TSCA regulations, the applicant may submit evidence to the USEPA that operation of the landfill will not present an unreasonable risk of injury to health or the environment if one or more of the technical requirements are waived. ALCOA submitted as evidence a proposal to design and construct a base liner system comprised of two composite liners. The primary composite liner design consists of a 60-mil thick high density polyethylene geomembrane and a geosynthetic clay liner. The design of this primary liner exceeds the current RCRA and TSCA minimum technology standards. Under RCRA, the primary liner must consist, at a minimum, of a geomembrane, and both RCRA and TSCA require that this material be at least 30-mil thick. The bottom composite liner consists of 60-mil thick high density polyethylene geomembrane and a 3 foot thick compacted clay layer of acceptable hydraulic conductivity. The use of the 60-mil thick geomembrane for the bottom liner exceeds the minimum RCRA and TSCA requirement of 30 mils.

In addition, ALCOA proposed to design and construct a primary leachate collection system and secondary leachate detection system within the landfill liner system. This will help to ensure that any failure of the primary composite liner can be discovered as soon as possible. A failure in the primary composite liner would most likely result increased volumes of leachate leaking from the landfill. Should such an event occur, ALCOA has proposed a response action plan to remove the excess leachate volume and correct the problem. The response action plan includes notification of the problem to the New York State Department of Environmental Conservation, procedures for conducting a thorough assessment of what was likely to have caused the problem, increased sampling analysis to determine the source of the problem, and remedial action to address the problem, if required.

ALCOA also requested a waiver from one of the technical requirements for its proposed groundwater monitoring system. In

particular, for water analysis, ALCOA requested a waiver from the requirement that the groundwater samples be analyzed for those chlorinated organics other than PCBs which are commonly encountered in chemical waste landfills. As evidence pursuant to this request, ALCOA states that the wastes to be disposed in the landfill will come from known, pre-characterized waste sites at the facility. Leachate generated in the landfill following disposal of these wastes is likely to contain certain organic compounds, such as PCBs and certain volatile organic compounds. ALCOA has proposed a groundwater monitoring plan which will use these organic compounds as indicator parameters of potential contamination from the landfill. Should the groundwater samples indicate elevated levels of these indicator parameters, ALCOA will conduct a more extensive contingency monitoring plan, which would include monitoring of chlorinated organics, in addition to its continuing monitoring of PCBs and volatile compounds.

The USEPA has reviewed the proposed landfill liner design, the proposed leachate management plan, the response action plan, the expected characteristics of waste to be disposed in the landfill, and supporting hydrogeologic information provided by ALCOA. The USEPA has determined that ALCOA's TSCA application is complete. The USEPA has also determined that the evidence submitted by ALCOA pursuant to the two waiver requests is acceptable, in that they would fully satisfy the intent of the USEPA regulations. Thus, operation of the landfill with the two previously mentioned TSCA requirement waivers will not present an unreasonable risk of injury to health or the environment.

Therefore, the USEPA has made a tentative decision to approve ALCOA's TSCA application for PCB disposal, to waive the TSCA requirement that the bottom of the landfill liner system be at least fifty feet from the historical high water table, and to waive the TSCA requirement that the landfill operator analyze groundwater samples for chlorinated organics other than PCBs. Thank you.

Fact Sheet on
Aluminum Company of America (ALCOA)
Secure Landfill Project
Massena, New York

Background

- ALCOA's Massena Operations Plant is located on 3,500 acres in the Town of Massena, St. Lawrence County, New York. Aluminum and aluminum products have been manufactured continuously at the plant since 1903, resulting in the generation of various types of industrial and hazardous wastes, including PCBs.

- In 1985, ALCOA entered into a consent order issued by NYSDEC under its state Superfund authority to investigate and clean up all hazardous waste sites at the facility. A facility-wide Remedial Investigation identified 14 separate disposal areas, including more than 37 acres of landfill area and 110 acres of lagoons.

- NYSDEC issued two Records of Decision (May 1991 and January 1992) to address remediation of the above disposal areas. Several of the preferred remedial alternatives included requirements for the secure disposal of contaminated soils in an on-site landfill. The RODs stipulated that this landfill shall be designed and constructed in accordance with state RCRA requirements and EPA RCRA/TSCA requirements.

Landfill Design Review Process

- We have been coordinating the technical review of ALCOA's secure landfill design with NYSDEC's Region 6 Division of Hazardous Substances Remediation since March 1992. NYSDEC informed us that they will be reviewing the design to ensure that all base RCRA requirements are met. NYSDEC would not be issuing a RCRA permit to ALCOA, since their internal agreements allow them to waive permit issuance for this site. Our review would be limited to TSCA requirements, including any related HSWA minimum technology requirements. We coordinated our review internally with ESD.

- During the spring and summer of 1992, ALCOA conducted compatibility tests and geotechnical assessments to ensure that the wastes to be disposed in the landfill are chemically compatible with the proposed liner material, and to ensure that sufficient seismic factors are incorporated into the landfill design. NYSDEC had the lead in reviewing these reports.

~27 acres total
4 cells 1 thru 4
3 & 4 may be combined

- On September 18, 1992, ALCOA submitted a preliminary design report to EPA and NYSDEC. ALCOA included its TSCA application for PCB disposal as part of this report.

- On October 29, 1992, we met with representatives from the state central and regional offices, and ALCOA to discuss the design report, and to develop a procedure through which the agencies would formally review, public notice, and grant approval of the design and subsequent construction of the secure landfill design project. Based on discussions during the meeting, NYSDEC issued a formal request to EPA for a memorandum of agreement on November 30, 1992.

- We responded to NYSDEC's request on March 4, 1993. We established a timeframe during which we would review and comment on the secure landfill design. We also requested that NYSDEC and EPA participate jointly in a public information session to discuss the agencies' tentative decision regarding the landfill application.

Special TSCA Review Issues

- ALCOA requested a waiver from one of the TSCA technical requirements for hydrologic conditions. In particular, ALCOA requested a waiver from the requirement that the bottom of the landfill liner system be at least fifty feet above the historical high water table. ALCOA has proposed to construct the landfill such that a minimum 5-foot separation will be maintained between the bottom of the landfill liner system and the historical water table. We have determined that this request is approvable, based on their proposed liner design, which exceeds RCRA and TSCA requirements for leakage detection and liner thickness.

- ALCOA also requested a waiver from one of the technical requirements for its proposed groundwater monitoring system. In particular, for water analysis, ALCOA requested a waiver from the requirement that the groundwater samples be analyzed for those chlorinated organics other than PCBs which are commonly encountered in chemical waste landfills. We have determined that this request is approvable, since there are certain leachate constituents which are expected and can be monitored, based on knowledge of the chemical characteristics of the wastes to be disposed in the landfill.

PCBs
pH
specific conductance
Chlorinated organics & waive this

Current Status

- We issued review comments to ALCOA on December 23, 1992. ALCOA responded on January 8, 1993. On March 24, 1993, we informed ALCOA that all EPA comments have been addressed satisfactorily, and that, following the resolution of all state issues, EPA will consider the TSCA application to be complete.

- On March 28, 1993, we participated with NYSDEC in a public information session at the Massena Town Library. We informed the attendees of our tentative decision to approve the landfill for PCB disposal, following the resolution of all state issues. No major concerns were raised by the public to the agencies during this meeting.

- On April 1, 1993, NYSDEC informed us that following a 30-day period after the public information session, assuming that no further public concerns are raised, NYSDEC will issue a formal approval to ALCOA.

Future Issues

- Following NYSDEC's approval, we will inform ALCOA that it must submit all construction certification documents to EPA prior to waste disposal. ALCOA will not be allowed to dispose PCBs in the secure landfill until EPA grants the facility TSCA authorization.

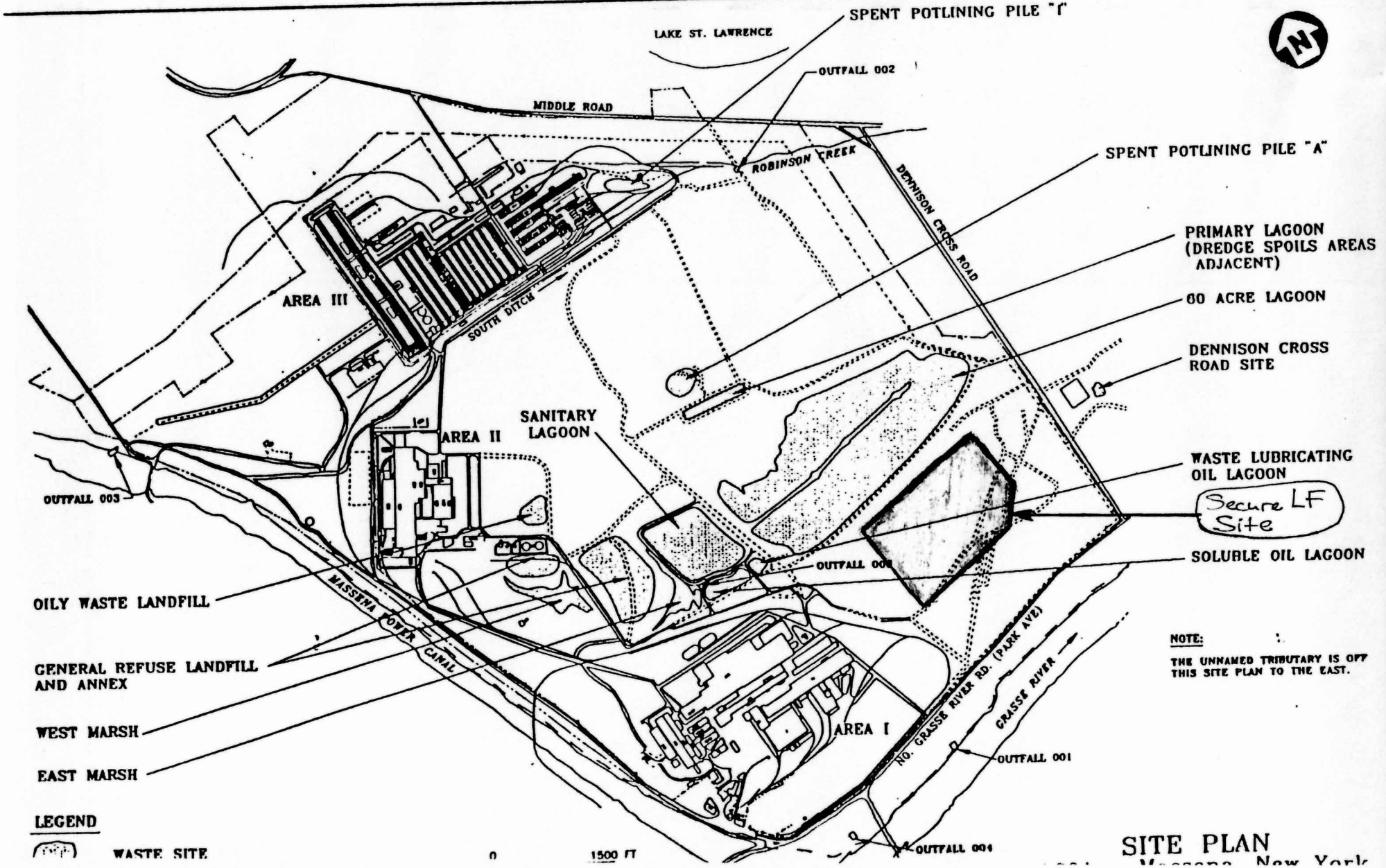
Construction - starts June 3 '93
- sedimentation basin, foundation, perimeter & interior walls, berms

Early end - Nov 2 '93
Late end - Nov 16 '93

liner installation next construction season
DEC & EPA permission to dispose
May-June '94

- get EJD concurrence
- ERRD concurrence

FIGURE 2


SPENT POTLINING PILE "I"
LAKE ST. LAWRENCE
OUTFALL 002
MIDDLE ROAD
ROBINSON CREEK
DENNISON CROSS ROAD
SPENT POTLINING PILE "A"
PRIMARY LAGOON (DREDGE SPOILS AREAS ADJACENT)
60 ACRE LAGOON
DENNISON CROSS ROAD SITE
AREA III
SOUTH DITCH
AREA II
SANITARY LAGOON
WASTE LUBRICATING OIL LAGOON
Secure LF Site
OUTFALL 003
OUTFALL 005
SOLUBLE OIL LAGOON
OILY WASTE LANDFILL
MASSENA POWER CANAL
GENERAL REFUSE LANDFILL AND ANNEX
WEST MARSH
EAST MARSH
AREA I
NO. GRASSE RIVER RD. (PARK AVE)
GRASSE RIVER
OUTFALL 001
OUTFALL 004
NOTE:
THE UNNAMED TRIBUTARY IS OFF THIS SITE PLAN TO THE EAST.
LEGEND
WASTE SITE
0
1500 FT
SITE PLAN

NYD 002 232 304

CAG3 — 20 JUL 1993

Mr. Timothy Mach
Plant Manager
Aluminum Company of America
Massena Operations
P.O. Box 150
Massena, New York 13662

Re: ALCOA Secure Landfill Project

Dear Mr. Mach:

This is in response to the letter from Aluminum Company of America (ALCOA) to the United States Environmental Protection Agency (EPA), Region II dated September 18, 1992. In that letter, ALCOA requested EPA's approval under the Toxic Substances Control Act (TSCA) for the disposal of polychlorinated biphenyls (PCBs) in a secure landfill to be constructed on the ALCOA-Massena Operations real property in Massena, New York.

In EPA's letter to ALCOA dated March 24, 1993, EPA stated that its decision on ALCOA's application was subject to ALCOA's resolution of all concerns raised by the New York State Department of Environmental Conservation (NYSDEC), as well as any other concern raised by the public pursuant to a public information session to be held at the Massena Town Library on March 25, 1993.

On April 26, 1993, NYSDEC formally approved ALCOA's Secure Landfill Final Design Report and granted ALCOA permission to commence construction of the landfill, pending EPA's approval. In addition, EPA received no comments from the public regarding this matter. In consideration of the above and EPA's review of ALCOA'S application, EPA hereby finds ALCOA's TSCA application for the construction of the secure landfill (the Secure Landfill Final Design Report) acceptable.

ALCOA's application includes requests for two waivers from the technical requirements of 40 C.F.R. § 761.75(b). In accordance with 40 C.F.R. § 761.75 (c)(4), EPA is granting ALCOA's requests as follows:

40 C.F.R. § 761.75(b)(3) requires that the bottom of the landfill be at least 50 feet above the historical high water table.

Basis for waiver - ALCOA's application shows that the landfill liner system design meets or exceeds all federal minimum technology standards.

40 C.F.R. § 761.75(b)(6)(iii)(D) requires that all water samples be analyzed for chlorinated organics.

Basis for waiver - This is not a commercial landfill and analysis of water samples is specific to the wastes from the ALCOA site which will be placed in the landfill. ALCOA shall still comply with all the analysis requirements of § 761.75(b) which are not waived and with the requirements in the Records of Decision for the Site issued in May 1991, and January 1992.

EPA finds that waiving these two requirements will not present an unreasonable risk of injury to health or the environment.

Please note that EPA's approval at this time applies solely to the construction of the secure landfill. EPA's approval does not authorize the disposal of TSCA-regulated waste at the landfill. Following construction of each cell of the landfill to be used for the disposal of PCB waste, ALCOA is required to submit to EPA all construction certification documents, including as-built drawings and other relevant documents, for EPA's review and approval in accordance with 40 C.F.R. § 761.75(c).

Should you have any questions regarding EPA's approval procedure, please contact Mr. Adolph Everett, of my staff, at (212) 264-8690.

Sincerely,

James R. Marshall for

William J. Muszynski, P.E.
Acting Regional Administrator

cc: Commissioner Thomas C. Jorling, New York State Department of Environmental Conservation

Michael O'Toole, Jr., Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation

Darrell Sweredoski, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation Region 6

bcc: Conrad Simon, 2AWM
Andrew Bellina, 2AWM-HWF
Douglas Pocze, 2AWM-HWF
Adolph Everett, 2AWM-HWF
Barbara Metzger, 2ES
Ernest Regna, 2ES-PTS
Daniel Kraft, 2ES-PTS
David Greenlaw, 2ES-PTS
Douglas Blazey, 2ORC
Coles Phinizy, 2ORC-AWTS
Rudolph Perez, 2ORC-AWTS